

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 22 FEB 2005

WIPO

PCT

Applicant's or agent's file reference 36680WOP00	<b>FOR FURTHER ACTION</b>	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).
International Application No. <b>PCT/AU2003/001456</b>	International Filing Date (day/month/year) 5 November 2003	Priority Date (day/month/year) 5 November 2002
International Patent Classification (IPC) or national classification and IPC <b>Int. Cl. <sup>7</sup> C01B 33/24, C04B 28/20</b>		
Applicant <b>JAMES HARDIE INTERNATIONAL FINANCE B.V et al</b>		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
- ☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
- These annexes consist of a total of sheet(s).
3. This report contains indications relating to the following items:
- I ☒ Basis of the report
  - II ☐ Priority
  - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
  - IV ☐ Lack of unity of invention
  - V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - VI ☐ Certain documents cited
  - VII ☐ Certain defects in the international application
  - VIII ☐ Certain observations on the international application

Date of submission of the demand 2 June 2004	Date of completion of the report 14 February 2005
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer  <b>JAMES DZIEDZIC</b> Telephone No. (02) 6283 2495

**I. Basis of the report****1. With regard to the elements of the international application:\***

- ☒ the international application as originally filed.
- ☐ the description, pages , as originally filed,  
pages , filed with the demand,  
pages , received on with the letter of
- ☐ the claims, pages , as originally filed,  
pages , as amended (together with any statement) under Article 19,  
pages , filed with the demand,  
pages , received on with the letter of
- ☐ the drawings, pages , as originally filed,  
pages , filed with the demand,  
pages , received on with the letter of
- ☐ the sequence listing part of the description:  
pages , as originally filed  
pages , filed with the demand  
pages , received on with the letter of

**2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.**

These elements were available or furnished to this Authority in the following language which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

**3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:**

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

**4. ☐ The amendments have resulted in the cancellation of:**

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/fig.

**5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\***

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims	YES
	Claims 1-34	NO
Inventive step (IS)	Claims	YES
	Claims 1-34	NO
Industrial applicability (IA)	Claims 1-34	YES
	Claims	NO

**2. Citations and explanations (Rule 70.7)**

The invention is directed to a method of preparing calcium silicate hydrate by reacting a calcareous material with a siliceous material wherein a suspension agent is used prior to said reaction (claim 1). The invention also relates to a calcium silicate hydrate with a solids content of > 35% (claim 11), the use of a gel in the making of calcium silicate hydrate by reacting a calcareous material with a siliceous material (claim 16), a matrix of calcareous gel with a siliceous material for making calcium silicate hydrate (claim 21) and the use of a suspension agent in making calcium silicate hydrate by reacting a calcareous material with a siliceous material (claim 25).

In practice the suspension agent is a gel forming agent which can be a source of amorphous silica. Specific examples being diatomaceous earth, clay, silica fume and cellulose pulp.

Cited Documents.

- (i) WO 01/14274 A (MATHUR)
- (ii) WO 98/45222 A (JAMES HARDIE)
- (iii) EP 78119 B (HORTON)
- (iv) GB 997202 A (JOHNS-MANVILLE)
- (v) Derwent Abstract Accession Number 89-161597/22, JP01-103914 A (DENKI KAGAKU KOGYO)
- (vi) Esp@cenet Abstract of JP 11079729 A (CHICHIBU ONODA CEMENT CORP)
- (vii) Derwent Abstract Accession Number 84-103798/17, JP59045953 A (ASAHI CHEMICAL IND KK)
- (viii) US 5709743 A (LETURE)

Document (i) discloses on page 16 the use of clay and diatomaceous earth in making calcium silicate hydrate.

Document (ii) discloses making calcium silicate hydrate by reacting a calcareous material with a siliceous material where the siliceous materials can include diatomaceous earth or silica fume.

Document (iii) discloses making calcium silicate hydrate which use diatomaceous earth, clay, or cellulose.

Document (iv) discloses making calcium silicate hydrate which uses diatomaceous earth.

Document (v) discloses making calcium silicate hydrate which uses silica fume.

Document (vi) discloses making calcium silicate hydrate which uses amorphous silica and diatomaceous earth.

Documents (i) to (vi) are thus all relevant to independent claims 1, 16 and 25.

Document (vii) discloses a gelled calcium material (relevant to claim 21).

Document (viii) discloses calcium silicate hydrate with a solids content of at least 35% (relevant to claim 11).

**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

**Continuation of Box V****Novelty**

In view of the specific disclosures of the preferred materials used in making calcium silicate hydrate no difference is evident from the cited art and the presently broadly claimed invention. The invention is thus considered as lacking novelty.

**Inventive Step**

See as above for novelty.